REMARKS:

Claims 1-21 are currently pending, of which claim 8 has been amended herein.

The Examiner has indicated that claims 13 and 17-21 set forth allowable subject matter.

Applicants and Applicants' attorney thank Examiner Leung for the interview courteously granted March 13, 2006. The special attention the Examiner paid to the instant application is noted with appreciation. Items discussed during the interview include: the certified copy of the priority document; and issues appearing in the Office Action dated February 28, 2006.

The Examiner has acknowledged Applicants' claim for foreign priority, but has suggested that a certified copy of the priority document is not in the file. Accordingly, a certified copy of the priority document JP2000-261114 is enclosed.

Claims 8, 10-12, and 16 stand rejected under the first paragraph of 35 USC 112 as failing to comply with the written description requirement.

Applicants respectfully traverse this rejection of claims 8, 10-12, and 16, for the following reasons.

The Examiner has suggested that the subject application fails to describe in detail the following aspects of claim 8: "bandwidth of optical output of said Mach Zehnder light intensity modulator is restricted by using loss of said travelling wave type electrode."

During the interview on March 13, 2006, the Examiner was asked to explain why the rejection of claims 8, 10-12, and 16 under the first paragraph of 35 USC 112 was maintained. Applicants explained why the Response filed December 16, 2005 was believed to have overcome the rejection under the first of paragraph of 35 USC 112. During the interview, the Examiner stated that the explanation was persuasive. The Examiner noted that, if such an explanation is included in the next Response, without contradictory remarks regarding any other rejection of claim 8, then it is likely that the rejection of claims 8, 10-12, and 16 under the first paragraph of 35 USC 112 will be withdrawn.

Accordingly, the explanation, as to why the rejection under the first paragraph of 35 USC 112 should be withdrawn, is repeated below.

It is well known to restrict bandwidth using a loss of an electrode. It is well known that loss of a radio frequency transmission line, such as coplanar waveguide, a microstrip line, and a strip line, depends upon frequency. The loss in a radio frequency transmission line includes the elements such as conductor loss, dielectric loss. The higher the frequency is, the higher the loss of all the elements

of a radio frequency transmission line. In a Mach Zehnder type light modulator, high frequency component of optical output is decreased when loss of high frequency component in a travelling wave type electrode increases, and the optical bandwidth is restricted by the loss.

Portions of a document by Brian C. Wadell with copyright 1991 (hereinafter **Wadell**) were filed on December 16, 2005 with the Response filed on that date. **Wadell** shows information relating to restricting bandwidth using a loss of an electrode, and supports the idea that it is well known to restrict bandwidth using a loss of an electrode, and demonstrates that the rejection of claim 8 under the first paragraph of 35 USC 112 is improper and should be withdrawn.

Wadell shows loss in a coplanar waveguide in equations 3.4.1.10 (dielectric loss), 3.4.1.11 (conductor loss), and 3.4.1.14 (radiation loss), which show that conductor loss is proportional to square root of frequency (f) (see Rs in 3.4.1.12), and dielectric loss and radiation loss are proportional to frequency (or inverse of wavelength λ_g). Thus, the desired loss characteristics are obtained by designing those losses and other parameters. As the loss increases as the frequency, the bandwidth is restricted by the loss.

In a Mach Zehnder type light modulator, high frequency component of optical output is decreased when loss of high frequency component in a travelling wave type electrode increases, and the optical bandwidth is restricted by the loss.

Thus, in view of the above, Applicants respectfully submit that the rejection of claim 8 under the first paragraph of 35 USC 112 should be withdrawn.

Claims 10-12 and 16 depend from claim 8. Thus, it is respectfully requested that the rejection of claims 10-12, and 16 be withdrawn, by virtue of their dependency.

Claims 7-12 and 16-21 stand rejected under the second paragraph of 35 USC 112 as being indefinite due to use of the term "type."

Applicants respectfully traverse this rejection of claims 7-12 and 16-21, for the following reasons.

The term "type" is adequately set forth in the application as originally filed. Accordingly, one of ordinary skill in the art would be reasonably apprized of the scope of the features set forth in claims 7-12 and 16-21.

In view of the application as originally filed, and in view of features set forth in claims 7-12 and 16-21, the Examiner has not demonstrated how one of ordinary skill in the art would not be reasonably apprized of the scope of features set forth in claims 7-12 and 16-21.

Thus, Applicants respectfully submit that this rejection of claims 7-12 and 16-21 should be withdrawn.

Claim 8 stands rejected under the second paragraph of 35 USC 112 as being indefinite due to use of this phrase: "restricted by using loss of said travelling wave type electrode."

Applicants respectfully traverse this rejection of claim 8, for the following reasons.

That phrase in claim 8 ("restricted by using loss of said travelling wave type electrode") has been amended herein in order to further clarify claimed features.

Accordingly, Applicants respectfully submit that this rejection of claim 8 should be withdrawn.

Claim 8 stands rejected under 35 U.S.C. 101 due to use of this phrase: "restricted by using loss of said traveling wave type electrode."

Applicants respectfully traverse this rejection of claim 8, for the following reasons.

That phrase in claim 8 ("restricted by using loss of said travelling wave type electrode") has

been amended herein in order to further clarify claimed features.

Accordingly, Applicants respectfully submit that this rejection of claim 8 should be withdrawn.

Claims 1-5 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S.P. 5,543,952 (**Yonenaga '952**) in reference to a document by Eitienne Sicard (**Sicard**).

Claims 6, 7, 9, 14, and 15 stand rejected under 35 U.S.C. 103(a) as obvious over **Yonenaga '952** in view of U.S.P. 5,644, 664 (**Burns**) in reference to **Sicard**.

Claim 8 stands rejected under 35 USC 103(a) as obvious over **Yonenaga '952** in view of **Burns** in reference to **Sicard**, and further in view of a document by Chung dated March 1991 (**Chung**).

Applicants respectfully traverse these rejections of claims 1-9, 14, and 15, for the following reasons.

The Examiner suggests that **Yonenaga '952** describes all features set forth in claim 1, except

the *amplifier*. The Examiner relies on **Sicard** to argue that an inverter is inherently an amplifier. Thus, the Examiner is suggesting that the inverter 11 of **Yonenaga '952** is inherently an amplifier.

Also, regarding amplifier in claim 7, the Examiner argues that the inverter 11 of **Yonenaga '952** is inherently an amplifier, because of the disclosure of **Sicard**.

In other words, the Examiner has noted that **Yonenaga '952** is deficient, regarding features set forth in claims 1 and 7.

The Examiner has attempted to show that **Sicard** remedies the noted deficiencies of **Yonenaga '952**.

However, the Examiner has not demonstrated that **Sicard** remedies the noted deficiencies of **Yonenaga '952**. The Examiner has not demonstrated that **Sicard** shows that an inverter is "inherently" an amplifier.

Sicard asks "Could the logic CMOS inverter act as an amplifier?" (page 7-11). **Sicard** answers as follows: "In principles, yes" but then **Sicard** immediately indicates one or more serious problems with such a concept. The Examiner has apparently disregarded the problems with such

a concept, as discussed in **Sicard**. The problems, as stated by **Sicard**, relate to very high gain of an amplifier and lack of control of process parameters, for example. As a result of this analysis performed by **Sicard**, it is apparent that **Sicard** concludes that "very high gain structures are **not** adequate" (page 7-11) (emphasis added).

Thus, in view of the above, the Examiner appears to be misapplying the teachings of **Sicard,** when utilizing **Sicard** to attempt to demonstrate that an inverter is inherently an amplifier.

Sicard fails to remedy the noted deficiencies of **Yonenaga '952** regarding inverter 11 of **Yonenaga '952**. **Burns** and **Chung**, alone or in combination, also fail to remedy the noted deficiencies of **Yonenaga '952**.

Therefore, Applicants respectfully submit that the rejection of claims 1 and 7 should be withdrawn.

Also, Applicants respectfully submit that the rejections of claims 2-6, 8, 9, 14, and 15 should be withdrawn by virtue of their dependency.

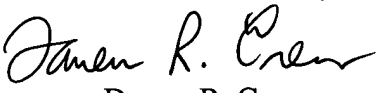
In view of the aforementioned amendments and accompanying remarks, all claims currently

pending are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,
ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP



Darren R. Crew
Attorney for Applicants
Reg. No. 37,806

DRC/llf
Atty. Docket No. **011070**
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930

23850
PATENT TRADEMARK OFFICE

Enclosure: Certified Copy of Priority Document JP2000-261114